REMARKS

Claims 11-20 were previously pending in the application. This Amendment amends claims 11, 15, and 18. Claims 16 and 17 are canceled. Claims 12-14, 17, 19, and 20 remain unchanged. New claim 21 is added. Claims 11 and 21 are independent.

This Amendment is accompanied by a Request for Continued Examination, which reopens prosecution after the filing of a Notice of Appeal on June 9, 2009.

The Double Patenting Rejection under 35 U.S.C. § 101

Claims 11 and 12 provisionally are rejected under 35 U.S.C. 101 as allegedly claiming the same invention as that of claims 11 and 12 of copending Application No. 10/583,636.

This Amendment amends claim 11, thereby rendering the provisional rejection under 35 U.S.C. § 101 moot. Claims 11 and 12 of the present application are not coextensive in scope with claims 11 and 12 of copending Application No. 10/583,636.

Applicants respectfully request withdrawal of this rejection.

The Drawing Objections

The drawings are objected to under 37 CFR 1.83(a) as allegedly failing to show every feature in identified in the drawings.

Applicants gratefully acknowledge the indication in the Advisory Action dated June 5, 2009, that the objections to claim 11 with respect to the washing container, and claims 16, 18, and 19, have been withdrawn.

The Advisory Action stated that the objection to claim 11 with respect to the fluid carrier and the structure of the introduction of the cleaning agent is maintained.

Applicants respectfully traverse this objection.

Applicants respectfully submit that every feature of the invention specified in the claims is shown in the drawings. Fig. 1 is a cross section through a part of the sump of a

dishwasher. The specification describes that the sump forms the lower part of the washing container in which the washing fluid contained in the dishwasher collects.

With respect to claim 11, the Office Action asserts that the subject matter of the washing container, structure for introduction of cleaning agent, and fluid carrier are not shown in the drawings. The present application very clearly illustrates exemplary embodiments of the features.

For example, the elevation in the sump 1 in the dishwasher illustrates a part of the washing container. The side wall 2 also is part of the washing container. See, e.g., paragraphs [021] and [024]. Thus, these claimed features very clearly are illustrated in the drawings.

Applicants respectfully request withdrawal of this objection.

35 U.S.C. § 112, first paragraph

Applicants gratefully acknowledge the indication in the Advisory Action dated June 5, 2009, that the rejection of claim 11 under 35 U.S.C. 112, first paragraph, as allegedly failing to comply with the written description requirement and adding new matter, has been withdrawn.

The Claimed Invention

An exemplary embodiment of the claimed invention, as recited by, for example, independent claim 11, is directed to a dishwasher comprising a system for recognition of the fluid level of the washing fluid contained in the dishwasher, the fluid level recognition system having at least one capacitive filling level sensor having at least two probes, forming two capacitor plates, each operatively coupled to a sensor surface and projecting into the washing container for operative contact with the washing fluid, thereby using the washing fluid as a dielectric having a dielectric constant that changes with the fill level of the washing fluid, wherein at a first fill level the probes and the washing fluid form a capacitor having a first capacitance value indicating a first fill level and causing the filling level sensor to sense the first fill level and at a second fill level the

probes and the washing fluid form a capacitor having a second capacitance value indicating a second fill level and causing the filling level sensor to sense the second fill level, wherein at least one sensor probe made of electrically conducting material is provided inside the washing container and an electromagnetic field can be formed between the sensor probe and the filling level sensor, wherein the electromagnetic field varies depending on the height of the liquid level or varies depending on the dielectric constant of the medium surrounding the sensor probe, and wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container.

In this manner, the present invention provides a dishwasher with a system for filling level recognition which reliably determines the fluid level in the dishwasher without using moving parts and merely by using electronic components. As a result, the system for recognition of fluid level according to the invention is largely not liable to wear and contamination by deposited food residues. Since space no longer needs to be taken into account for mechanical devices, another advantage of the system for recognition of fluid level according to the invention is that it only requires a very small amount of space and thus can be accommodated almost arbitrarily even in inaccessible locations in the dishwasher. The system according to the invention further allows non-contact filling level recognition where the rinsing liquid and the filling level sensor do not come into contact, which will be explained in detail in the following description.

The Rejections under 35 U.S.C. § 103

In the final Office Action, claim 11-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Wennerberg et al reference (US. 3,539,153) in view of the Adamski et al reference (U.S. 4,982,606).

Applicants respectfully traverse this rejection.

Applicants respectfully submit that none of the applied references discloses or suggests the features of the claimed invention including a system for recognition of the fluid level of the washing fluid contained in the dishwasher, the fluid level recognition

system having at least one capacitive filling level sensor having at least two probes, forming two capacitor plates, each operatively coupled to a sensor surface and projecting into the washing container for operative contact with the washing fluid, thereby using the washing fluid as a dielectric having a dielectric constant that changes with the fill level of the washing fluid, wherein at a first fill level the probes and the washing fluid form a capacitor having a first capacitance value indicating a first fill level and causing the filling level sensor to sense the first fill level and at a second fill level the probes and the washing fluid form a capacitor having a second capacitance value indicating a second fill level and causing the filling level sensor to sense the second fill level, wherein at least one sensor probe made of electrically conducting material is provided inside the washing container and an electromagnetic field can be formed between the sensor probe and the filling level sensor, wherein the electromagnetic field varies depending on the height of the liquid level or varies depending on the dielectric constant of the medium surrounding the sensor probe, and wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container, as recited in claim 11.

As explained above, these features are important for providing a dishwasher with a system for filling level recognition which reliably determines the fluid level in the dishwasher without using moving parts and merely by using electronic components, which is largely not liable to wear and contamination by deposited food residues, and which only requires a very small amount of space and thus can be accommodated almost arbitrarily even in inaccessible locations in the dishwasher. The system according to the invention further allows non-contact filling level recognition where the rinsing liquid and the filling level sensor do not come into contact.

The Wennerberg et al reference very clearly does not teach or suggest these features. Instead, the Wennerberg et al reference discloses three separate sensors (e.g., a low level sensor 26, a medium level sensor 28, and a high level sensor 30) that may be one of several types of sensors. The Wennerberg et al reference discloses that the sensors 26, 28, 30 can be capacitive sensors. Indeed, the Office Action specifically

acknowledges that the Wennerberg et al reference discloses using multiple sensors for determine the height, not a single sensor.

In stark contrast to the teachings of the Wennerberg et al reference, in the claimed invention, the same probes are used in conjunction with the washing fluid to form a capacitor that has a first capacitance value indicating a first fill level and a second capacitance value indicating a second fill level.

For example, as shown in Figure 1, the same probes 8 of the present invention contact the washing fluid to form a capacitor having a first capacitance value indicating a first fill level and causing the filling level sensor to sense the first fill level, and at a second fill level the probes 8 and the washing fluid form a capacitor having a second capacitance value indicating a second fill level and causing the filling level sensor to sense the second fill level.

The Wennerberg et al reference very clearly does not disclose or suggest these features. The Adamski et al reference does not remedy the deficiencies of the Wennerberg et al reference.

For example, as shown in Figure 1 of the present invention, the filling level sensor 4 has at least two probes 8. The probes 8 are each operatively coupled to the sensor 4 and project into the washing container for operative contact with the washing fluid. In this manner, the sensor 4 does not come into contact with the washing fluid or the rinsing fluid, and therefore, is not subject to wear and contamination by deposited food residues, etc.

In comparison, the Office Action relies on parts 50 and 52 of the Adamski et al reference for the alleged teaching of these sensor probes projecting into the washing container for operative contact with the washing fluid, as recited in independent claim 11. However, in the text of the rejection of claim 15, the Office Action specifically acknowledges that the sensor surfaces 50 and 52 are isolated from the rinsing fluid by a fluoroplastic structure, which contradicts the Office Action's assertions with respect to independent claim 11. See page 5, numbered paragraph 9.

Applicants respectfully submit that, based on the explicit assertions in the Office Action, the Adamski et al reference fails to make up for the deficiencies of the Wennerberg et al reference with respect to independent claim 11. Applicants respectfully submit that the Office Action fails to establish that the applied references disclose or suggest at least one capacitive filling level sensor having at least two probes, forming two capacitor plates, each operatively coupled to a sensor surface and projecting into the washing container for operative contact with the washing fluid ... wherein the electromagnetic field varies depending on the height of the liquid level or varies depending on the dielectric constant of the medium surrounding the sensor probe, and wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container, as recited in claim 11.

As explained above, these features are important for providing a dishwasher with a system for filling level recognition which reliably determines the fluid level in the dishwasher without using moving parts and merely by using electronic components, which is largely not liable to wear and contamination by deposited food residues, and which only requires a very small amount of space and thus can be accommodated almost arbitrarily even in inaccessible locations in the dishwasher. The system according to the invention further allows non-contact filling level recognition where the rinsing liquid and the filling level sensor do not come into contact.

The Advisory Action dated June 5, 2009, states that the prior art teaches that the electronic components are located outside the container (citing the Adamski et al reference at col. 5, lines 1 - col. 6, line 69), thus having a surface protected by the container and that the sensor surface that is located within the fluid is protected by a surface other than the wall of the container (col. 5, lines 50-69) since the claim limitation only requires that the sensor surface is protected by **selecting one** of a wall of the washing container and a structure other than the wall of the container. Emphasis original.

In stark contrast, and as explained above, independent claim 11 has been amended to recite wherein the at least one sensor probe is arranged such that it is separated with

respect to an active sensor surface of the filling level sensor by a wall of the washing container.

Applicants respectfully submit that the applied references clearly fail to disclose or suggest at least wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container, as recited in claim 11. Moreover, neither the Office Action nor the Advisory Action has established that the applied references disclose or suggest at least this feature.

Applicants respectfully request withdrawal of this rejection.

New Claim 21

New claim 21 is added. No new subject matter is added.

Applicants respectfully submit that claim 21 is patentable over the applied references for somewhat similar reasons as those set forth above.

For example, claim 21 recites wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container.

As explained above, the Advisory Action dated June 5, 2009, states that the prior art teaches that the electronic components are located outside the container (citing the Adamski et al reference at col. 5, lines 1 - col. 6, line 69), thus having a surface protected by the container and that the sensor surface that is located within the fluid is protected by a surface other than the wall of the container (col. 5, lines 50-69) since the claim limitation only requires that the sensor surface is protected by **selecting one** of a wall of the washing container and a structure other than the wall of the container. Emphasis original.

In stark contrast, independent claim 21 recites wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container.

Applicants respectfully submit that the applied references clearly fail to disclose or suggest at least wherein the at least one sensor probe is arranged such that it is separated with respect to an active sensor surface of the filling level sensor by a wall of the washing container, as recited in claim 21.

Applicants respectfully request allowance of claim 21.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of claims 11-15 and 18-21 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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